

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/720,246	KELLER ET AL.	
	Examiner	Art Unit	
	JEAN B. FLEURANTIN	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 6/28/06.
2.  The allowed claim(s) is/are 1-3,5-14,16-18,20-27,29 and 30.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
 SHAHID ALAM  
 PRIMARY EXAMINER

#### **DETAILED ACTION**

1. This is in response to Applicant's amendment submitted on 6/28/06, with respect to claims 1-3, 5-14, 16-18, 20-27 and 29-30 have been fully considered and are persuasive. Therefore, the rejection of last Office action has been withdrawn.

Claims 4, 15, 19 and 28 have been canceled.

Claims 1-3, 5-14, 16-18, 20-27 and 29-30 remain pending for examination.

#### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

Claims 1-3, 5-14, 16-18, 20-27 and 29-30 are allowed over the prior art of record.

With respect to claims 1, 16 and 25 the claimed features "a method for estimating a selectivity of a query containing at least one column-associated condition related to column attributes of a relational database table, the method comprising generating a dataset by sampling a plurality of queries applied against the database, wherein the dataset includes a plurality of query conditions and information related to combinations of said query conditions, calculating a cardinality estimate CE of said query with the following formula:

$$CE = \sum_{i=1, \dots, L} f(Z_i)$$
 wherein  $f(Z_i)$  is a regression function, CE is a total of correlations between the plurality combinations of elementary operations used in said sampled queries, and  $Z_i$  is a frequency of occurrence for one or more column-associated condition  $c_{jk}$ , and wherein said regression function is updated using said data mining model" in combination with other element of the independent claims would not be found anticipated or obvious over the prior art made of record.

The dependent claims, being definite, further limiting, and fully enabled by the specification are also allowed.

The closest prior art, Schiefer et al., U.S. Patent No. 5,761,653 relates to database management systems and more particularly to a method for estimating key cardinalities for query processing in a relational database management system. Lise Getoor et al., relates to selectivity estimation using probabilistic models, estimating the result size complex queries that involve selection on multiple attributes but fail to teach the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### CONTACT INFORMATION

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 - 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 - 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

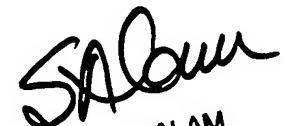


Jean Bolte Fleurantin

Patent Examiner

Technology Center 2100

August 19, 2006



SHAHID ALAM  
PRIMARY EXAMINER